

Owings Mills Boulevard Extension, Phase I: A New Connection That Fits Right In!

By: Matthew J. Crane, PE, PMP, Johnson, Mirmiran & Thompson, Inc. (JMT) of Sparks, MD

Owings Mills is a targeted growth area for Baltimore County, and the County has established planning/zoning strategies and policies to foster area development. One such strategy is greater north-south connectivity between the Owings Mills Boulevard business community, the Maryland Transit Administration's Metro station in Owings Mills, and commercial areas along Liberty Road, a nearby arterial.



The initial step in accomplishing these goals -- a 1.2 mile extension of Owings Mills Boulevard on new alignment -- opened to traffic in August 2012.

The design of the project was fast-tracked. The contract documents were completed in fewer than six months, addressing numerous environmental, political and economic constraints placed upon the project team.

This \$10 million project was awarded at \$1.4 million under budget, and another \$225,000 of savings was recognized during construction, which allowed the surplus to be applied toward future phases. The designer incorporated innovative contract language to reduce our client's cost risk, including specifications for unsuitable material handling, pavement design options based on actual field conditions encountered, and foundation design alternatives that allowed flexibility during construction.

Project challenges involved determining an alignment through the existing neighborhood and avoiding sensitive environmental features associated with Horsehead Branch, a federally regulated watercourse that crossed through the project limits. Given the restrictive area, the design team needed to reduce the project footprint to limit impacts to residential properties and environmental features. Alternative lane widths and bridge lengths were examined to determine the set of features that best met stakeholder needs. The final design balanced the requirements of building a facility that provided safe and efficient travel while minimizing impacts to properties and resources.

The requirements of federal, state and local regulators (among them, the US Army Corps of Engineers, Maryland Department of the Environment, County Department of Environmental Protection and Sustainability) were met or exceeded throughout the design and construction by providing bioretention and innovative sand filter water quality features, by mitigating for both

permanent and temporary wetland and forest buffer impacts associated with the project, and by including more than 2,800 trees, shrubs and other plantings.

Pedestrian movement and safety were key components of the project. Sidewalk buffers and textured pedestrian scale walls were incorporated throughout the length of the project.

Hardscape and plantscape amenities were developed with the community's input to mitigate the visual impact of the roadway on adjacent residential properties. More than 2,800 plantings were incorporated into the design to mitigate wetland and forest impacts and to aesthetically blend the design of the roadway into the existing community.



Successful public involvement was critical, especially with the challenge of constructing a new roadway through an existing residential community. Outreach efforts such as newsletters, public meetings and design charrettes resulted in proactively involving the community, local officials and residents in the design process, giving the design team important feedback regarding environmental and aesthetic features.

Additionally, the community was afforded a single point of contact during construction to ensure that resident concerns were satisfactorily addressed in a timely manner.

Sensitivity to visual quality and the environment were demonstrated by incorporating aesthetically-pleasing design elements, including textured and colored screen walls adjacent to residential areas.

Similar aesthetic treatments were applied to the bridge over Horsehead Branch. Decorative inlays were used on crosswalks to provide context sensitivity to the roadway and surrounding area.

The project supported sustainable transportation options with sidewalks throughout its length and a multi-use bicycle path connecting area residential amenities and parks. These elements promoted a sense of community and enhanced quality of life for residents. Sustainable features were also incorporated into the construction phase. These included recycling of natural and manmade materials, calendar restrictions on construction activities to protect sensitive environmental and biological resources, and construction time restrictions to prevent noise disturbance during evening or weekend hours. To further protect the public and limit construction impact, a survey was conducted of all residential structures prior to and at the completion of construction to ensure construction activity did not cause any secondary damage to homes or property.



The project has been extremely well received. Regulatory agencies praised the team for the level of effort and commitment to protect the environment. The contract documents, completed under a fast-track schedule, resulted in fewer than 2% change orders, and the project itself was completed well under the allocated budget. Residents noted the minimal impacts endured during construction, and they were pleased with the level of involvement accorded them during design and construction.



Owings Mills Boulevard's new extension serves as an investment in transportation infrastructure in accordance with the County's master plan to ensure that essential elements of the highway network are in place to serve current and future travel demands. The project's completion helps to achieve economic and growth oriented goals while respecting the area's social and environmental resources.